



The Abdus Salam International Centre for Theoretical Physics



2nd African School on "Electronic Structure Methods and Applications" ASESMA-2012

28 May - 8 June 2012

**Chepkoilel University College
Eldoret, Kenya**

The African School series on Electronic Structure Methods and Applications (ASESMA) is planned on a biennial basis from 2010 to 2020. The schools will emphasize the theory and computational methods for predicting and understanding properties of materials through calculations at the fundamental level of electronic structure. The 2010 school was held in Cape Town and focused on the basic aspects of electronic structure. The 2012 school will be held at Chepkoilel University College of Moi University, Eldoret, Kenya and will include both basic introductory topics and more advanced aspects, including applications of the methods to the study of materials for energy applications. The school is organized by the Abdus Salam International Centre for Theoretical Physics (ICTP) in collaboration with the IUPAP Commissions on Physics for Development (C13) and on Computational Physics (C20), the Italian National Simulation Centre CNR/INFM "Democritos" the South African National Institute for Theoretical Physics (nithep).

PROGRAMME

The workshop will cover methodological aspects such as density functional theory, pseudopotentials, plane waves, iterative diagonalization methods, etc. It will also cover the application of electronic structure methods to the mechanical, dynamical, electronic, and magnetic properties of materials. The workshop will consist of lectures and of hands-on computational laboratories based on the Quantum-Espresso codes.

INTERNATIONAL ADVISORY PANEL

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PARTICIPATION

The participation in the activity is open to young scientists from all countries, which are members of the United Nations, UNESCO or IAEA, and aimed preferably at candidates from the African continent. As it will be conducted in English, participants should have an adequate working knowledge of this language. Participants should also have an adequate knowledge of Linux and of basic programming. Limited travel funds are available for some participants, who are nationals of, and working in, a developing country, and who are not more than 45 years old. Such support is available only for those who attend the entire School. There is no registration fee. Local accommodation and meals will be provided at no charge to all those selected for participation.

The **Application form** should be completed on-line **before**
17 February 2012 (if requiring support)
31 March 2012 (if not requiring support nor visa)
by accessing:

Activity Web page:
<http://agenda.ictp.it/smr.php?2385>

Further information may be retrieved at: <http://asesma.ictp.it>

General requests for information may be addressed to:

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CO-SPONSORS:

**American Physical Society, Division of
Computational Physics**

**Beijing Computational Science Research
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Chepkoilel University College

**INFM-DEMOCRITOS National Simulation
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**International Center for Materials
Research (ICMR), Santa Barbara, USA**

**International Union for Pure and Applied
Physics (IUPAP)**

**National Council for Science and
Technology, Kenya**

**National Institute for Theoretical Physics
(NITheP), South Africa**

US Liaison Committee for IUPAP

ORGANISING COMMITTEE:

G. Amolo (Chepkoilel University College)
N. Makau (Chepkoilel University College)
N. Chetty (U. Pretoria)
R. Martin (Illinois)
S. Scandolo (ICTP)

DEADLINES
for requesting participation:

17 February 2012
(if requiring support)

31 March 2012
(if not requiring support nor visa)